

In the Claims

Claims 1-68 [Canceled].

69. [Previously Presented] A remote intelligent communication device comprising:

a ground plane;

an antenna spaced apart from and interacting with the ground plane, the antenna being substantially electrically insulated from the ground plane;

transponder circuitry coupled with the antenna;

an encapsulant configured to form a housing about the antenna and the transponder circuitry, the encapsulant comprising an outermost planar surface of the housing; and

a power source electrically connected with the transponder circuitry and the ground plane.

70. [Previously Presented] The device according to claim 69 wherein the encapsulant encapsulates and contacts the antenna.

Claims 71-72 [Canceled].

73. [Previously Presented] The device according to claim 69 wherein the encapsulant encapsulates and contacts the transponder circuitry.

74. [Previously Presented] The device according to claim 69 wherein the transponder circuitry comprises radio frequency identification device communication circuitry.

75. [Previously Presented] A communication device comprising:  
transponder circuitry operable to communicate an identification signal using backscatter communications responsive to receiving a polling signal;  
an antenna coupled with the transponder circuitry; and  
a ground plane spaced from the antenna and configured to shield some electromagnetic signals from the antenna and reflect other electromagnetic signals towards the antenna, the ground plane being electrically coupled with a terminal of a power source and provided at a voltage of the terminal.

76. [Previously Presented] The device according to claim 75 wherein the ground plane has a first side facing away from the antenna and configured to shield the some electromagnetic signals from the antenna, and a second side facing the antenna and configured to reflect the other electromagnetic signals towards the antenna.

77. [Previously Presented] The device according to claim 75 wherein the transponder circuitry is configured to implement radio frequency identification device communications.

78. [Previously Presented] The device according to claim 75 further comprising the power source coupled with the transponder circuitry.

79. [Previously Presented] A method of forming a remote intelligent communication device comprising:

providing a power source;

forming a ground plane;

forming an antenna spaced from the ground plane;

conductively bonding transponder circuitry with the antenna; and

electrically coupling the ground plane with the power source to electrically ground the ground plane.

80. [Previously Presented] The method of claim 79 further comprising conductively bonding the transponder circuitry with the ground plane.

81. [Previously Presented] The method of claim 79 further comprising forming a housing to encapsulate and contact the antenna and the transponder circuitry.

82. [Previously Presented] The method of claim 79 wherein the conductively bonding comprises conductively bonding the transponder circuitry configured to implement backscatter communications.

83. [Currently Amended] A method of forming a remote intelligent communication device comprising:

forming a ground plane;

printing an antenna over the ground plane in a substantially electrically insulated relationship with respect to the ground plane;

forming a housing to encapsulate and contact the antenna; and

electrically coupling transponder circuitry with the antenna;

providing a dielectric layer intermediate the ground plane and the antenna; and

printing at least one conductive connection through the dielectric layer while printing the antenna.

Claims 84-85 [Canceled].

86. [Currently Amended] The method of claim [[84]] 83 wherein the forming the housing comprises forming the housing to contact a portion of the dielectric layer.

87. [Previously Presented] The method of claim 83 wherein the electrically coupling comprises electrically coupling the transponder circuitry configured to implement backscatter communications.

88. [Currently Amended] A method of forming a radio frequency identification device comprising:

providing a conductive layer;

forming an antenna over the conductive layer;

providing transponder circuitry over the conductive layer, wherein the transponder circuitry is configured to communicate using radio frequency identification device communications to identify the radio frequency identification device;

electrically coupling the transponder circuitry with the antenna; and

providing an encapsulant to form the device comprising a substantially void-free mass; and

grounding the conductive layer during communications of the transponder circuitry.

89. [Canceled].

90. [Previously Presented] The method of claim 88 wherein the encapsulating comprises:

flowing a flowable encapsulant over the antenna and the transponder circuitry; and  
curing the encapsulant.

91. [Previously Presented] The method of claim 79 wherein the antenna comprises a trace of electrically conductive ink.

92. [Previously Presented] The method of claim 83 wherein the printing the antenna comprises printing a trace of electrically conductive ink.

93. [Previously Presented] The method of claim 90 wherein the flowing the flowable encapsulant comprises flowing the flowable encapsulant over an entirety of the antenna.

94. [Previously Presented] The device according to claim 69 wherein the transponder circuitry includes a modulator configured to communicate using backscatter communications.

95. [Previously Presented] The device according to claim 69 further comprising an integrated circuit comprising the transponder circuitry.

96. [Previously Presented] The device according to claim 75 further comprising an integrated circuit comprising the transponder circuitry.

97. [Previously Presented] The method of claim 79 further comprising providing an integrated circuit comprising the transponder circuitry.

98. [Previously Presented] The method of claim 83 further comprising providing an integrated circuit comprising the transponder circuitry.

99. [Previously Presented] The method of claim 88 further comprising providing an integrated circuit comprising the transponder circuitry.

100. [Previously Presented] The method of claim 88 wherein the providing the encapsulant comprises providing the encapsulant to form the device comprising a solid device which is a void-free mass.